DOCUMENT RESUME

ED 328 775 CE 056 991

AUTHOR Baldwin, Stephen E.
TITLE Moving toward a Higher Value-Added Economy: What Is the National Need for Economic Growth and Work Improvements? Monograph Series Vol. 1, No. 9.
INSTITUTION National Commission for Employment Policy (DOL), Washington, D.C.
PUB DATE Oct 87
NOTE 24p.
AVAILABLE FROM National Commission for Employment Policy, 1522 K Street, N.W., Suite 300, Washington, DC 20005.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Basic Skills; Continuing Education; Cost Effectiveness; Dislocated Workers; Economic Change; *Economic Opportunities; *Economic Progress; *Education Work Relationship; *Employment Practices; Labor Conditions; *Labor Force Development; Labor Market; Living Standards; Productivity; Quality of Life; Quality of Working Life; Technological Advancement; Work Environment

ABSTRACT

Elements of the "American dream" are adequate housing, education for one's children, and a secure retirement. Economic growth has long been seen as a way to realize the dream. Recent data indicate that achieving the dream and succeeding in the labor market have become more difficult due to sluggish productivity growth, increased competition from abroad, technological change, and shifts in attitudes and expectations about roles of minorities and women. Recognition of the elements of social scarcity should help in lowering expectations that cannot be fully realized by everyone. A review and critique of U.S. economic growth shows that growth and change impose costs and benefits on individuals, communities, and society. Costs are borne by displaced workers and depressed labor markets, whereas benefits are more widely diffused in the form of less expensive products. To add value that can justify rising living standards, the quality of inputs must be raised, primarily labor inputs via better education. Basic and recurrent elements of education have increasingly become the foundation for workers' employment security, which in turn requires adaptability to changing work requirements. Work improvements may increasingly take the form of individualized situations that have a positive impact on productivity and economic growth. (25 references) (YLB)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED328775

# MOVING TOWARD A HIGHER VALUE-ADDED ECONOMY:

## What is the National Need for Economic Growth and Work Improvements?

by

Stephen E Baldwin
Staff Economist
National Commission for
Employment Policy

October 1987 Vol. 1, No. 9

The National Commission for Employment Policy (NCEP) monograph series is dedicated to exploring important issues that influence employment and training policies and programs. The objective is to enhance public discussion concerning these issues and to assist decision makers involved with the Nation's employment and training agenda.

The NCEP, authorized under the Job Training Partnership Act, is an independent Federal agency with responsibility for examining broad issues associated with the development, coordination, and administration of employment and training programs, and for advising the President and the Congress on related policy issues.

For more information and additional copies, contact the National Commission for Employment Policy, 1522 K Street, N.W., Suite 300, Washington, D.C. 20005, or telephone (202) 724-1545.

CE 056 991

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

The author would like to thank the following reviewers for their helpful comments on an earlier draft: Patricia Flynn, Patricia Buckley Frederick, Scott Gordon, Ed Hullander, Kevin Kennedy, Marvin Kosters, George Kuper, Carol Romero, and Steven Sandell. The views expressed are those of the author, who is also solely responsible for any errors of fact or omission.

## EXECUTIVE SUMMARY

Adequate housing, education for one's children, and a secure retirement are three main elements of the "American dream." Economic growth has long been seen as a vehicle through which Americans' dreams have been and can be realized. Recent data seem to indicate that achieving these dreams, and succeeding in the labor market, have become more difficult for workers entering the labor market in the last ten or fifteen years. Factors associated with the increasing difficulty include sluggish productivity growth, increased competition from abroad, technological change, and shifts in attitudes and expectations of and about the roles of minorities and women.

A factor that has been less generally recognized is the "positional" nature of much of the indexes of economic success. Housing location, occupational attainment and educational credentials acquire much of their value relative to one's competitors (or colleagues). Education is a particularly difficult issue, because of its real contribution to economic growth. Much of the improvement in jobs and output comes, however, via improvements in the mastery of basic skills and in the availability of additional learning while on the job, rather than in the accumulation of degrees or credits. A major theme of the paper is that the basic and recurrent elements of education have increasingly become the foundation for workers' employment security, which in turn requires adaptability to changing work requirements.

Another theme stressed in the paper is that growth and change impose costs on individuals, communities and society in general. Often the costs of change are borne by displaced workers and depressed labor markets, while the benefits are more widely diffused in the form of less expensive products made possible by international trade and technological change. Family and community life can suffer when work and its rewards disappear or require extraordinary sacrifices to keep. Work improvements may increasingly take the form of individualized situations, allowing people to better fit their preferences and commitments to jobs they are glad to do well. Such improvements should have a positive impact on productivity and economic growth, especially if attributes such as autonomy and flexibility are included in the measurement of economic rewards.

## INTRODUCTION

One of the mandates of the National Commission for Employment Policy is to "identify and assess the goals and needs of the nation with respect to economic growth and work improvements, including conditions of employment, organizational effectiveness and efficiency, alternative working arrangements, and technological changes." (Job Training Partnership Act of 1982, P.L. 97-300 Title IV). This paper analyzes economic and social policy related to economic growth and work improvements in response to that mandate. Drawing on Commission-sponsored research, staff analyses, and work by other researchers and policy analysts, it concentrates on the complementarities and conflicts between the need for productivity growth to support higher real incomes, the expectations of Americans about rising living standards for themselves and their children, and the personal and social costs of economic growth.

Economic growth and work improvements are not just ends in themselves, but strategies or instruments to be used to the extent that they help people to achieve more fundamental ends. The kind of growth and the kind of improvements have independent influence as well. One way in which this influence is exerted is in the behavior people adopt. In an economy giving its highest priority to private consumption and characterized by slack labor markets, people are more likely to be self-centered and resistant to change than in a fully-employed economy that was also committed to an overriding social objective. Another channel of influence is the system through which potential and current workers acquire education. Education itself has both a productivity-enhancing and a status-enhancing effect. It is necessary to be cautious in linking economic growth and personal and social well-being. Economics and ecology share a word root with connotations of a balanced system: those advocating growth at all costs should remember that for organisms, including humans, exponential or unchecked growth is characteristic of illness, not health.

The remainder of the paper is divided into four parts. The first part sets out trends and interpretations related to contemporary economic realities, focusing on the "social limits to growth." The second part reviews U. S. economic growth as conventionally measured, and the benefits and costs associated with growth in a somewhat broader context. The third part discusses how work improvements may help increase output and improve the quality of jobs, and the last part draws some conclusions and offers suggestions about appropriate policies. In general, the conclusions and suggestions reflect the author's belief that while there are no panaceas for problems related to economic growth and job changes, there are potentially helpful policies that can be targeted on particular issues. Policymakers and analysts alike need to keep in mind the motto of the Royal Scottish Automobile Club: "Go warily."

THE AMERICAN DREAM

While Americans' dreams are probably as unique as snowflakes, the American Dream is usually viewed as having at least three main elements: owning a home, providing education for children, and retiring with financial security. That so many Americans have achieved that dream is one of the triumphs of American society, making most of us members of a middle class that is broader than that defined by the mid-range of the income distribution. For most people, the dream has been or is expected to be realized through employment. In recent years, however, there are signs that the dream is more difficult to make real for the "new entrants" to adulthood than it was for people who got their economic start before the early 1970s.

There has been considerable debate over whether the middle segment of the job structure is "shrinking", under the pressures of international competition and technological change (e.g., Rosenthal, 1985). Frank Levy and Richard Michel report (1986) that what seems to be happening is an increased inequality of prospects over a working lifetime, in which, for the first time in U.S. history, children can't automatically expect to live better than their parents. Levy and Michel distinguish between responses to this new perception, which include increased working outside the home for women, later family formation, fewer children and diminished size of houses, and the causes of the insufficient growth in real earnings. Causes of lower earnings growth during the 1970s were mainly price escalation in energy, due largely to OPEC; the rapid growth in the labor force as the baby boom cohort came of age; and the spread of inflation through the adoption of "defensive" arrangements that tied wage rates and product prices to movements in some wage or price index. In the past few years, inflation and labor force growth have both moderated; the hoped-for upsurge in aggregate productivity growth has not materialized, although it has improved in a number of individual industries. Since productivity growth is necessary for general increases in conventional measures of living standards, both analytic and policy attention has been directed to the productivity slowdown. Unfortunately, this has occurred without any definitive explanation being offered, much less accepted.
(Recent research by Bureau of Labor Statistics economists shows that the 1973-1983 manufacturing productivity slowdown is not due to a reduction in the rate at which workers are provided more capital with which to work. See Gullickson and Harper, 1987.)

The Levy and Michel analysis is supported by recent work by Marvin Kosters and Murray Ross (1987), who look at earnings data from 1967-85 and conclude that the distribution of annual earnings for the work force as a whole has not been significantly changed. They also conclude that a widespread productivity growth slowdown is the major factor behind slower real earnings growth. This explanation is favored against an alternative explanation, advanced by Harrison and Bluestone (1986), that a structural shift has occurred such that the economy is generating a disproportionate number of lower-paying jobs. The slowdown in earnings growth is most marked for men aged 25-34, a group that experienced a decline in real annual earnings starting in 1973.

One possible explanation discussed by Kosters and Ross for low median earnings for young men is that they may be more heavily concentrated than before in jobs whose earnings rise more steeply with age. In general, jobs with higher educational requirements have steeper age-earnings profiles, so

BEST COPY AVAILABLE

that to the extent that the occupational mix in the U. S. economy has become more education-intensive, and that new entrants have disproportionately taken such jobs, lower earnings levels for younger workers may be less of a problem than generally thought. The test of such a hypothesis, of course, is to examine wages of these most recent entrants as they gain experience in the labor market. Such an explanation is one example of the important role played by education in economic growth.

Education is a major determinant of both productivity levels and productivity growth. Edward Denison's seminal 1967 study, Why Growth Rates Differ, found a significant share of international differences in productivity growth attributable to differences in educational attainment. (Economists use the term "investment in human capital" as a shorthand for the productivity-increasing effects of education and training obtained by members of the labor force.) An important labor market advantage of educated compared to uneducated people is that the former have learned how to learn. That is, the ability to adapt to new information and changed conditions is an important part of education's benefits to the individual and to society.

However, increased educational attainment alone is not enough to ensure individuals or society enhanced economic rewards. Management at both the macroeconomic (monetary and fiscal policy) and microeconomic (firm) levels must be sufficiently competent that investors', managers' and workers' efforts get translated into increased output and earnings. Neither is reliance on technological innovation enough to ensure productivity gains. Implementation of technology involves human decisions that are only partly based on the technology itself. Inappropriate implementation can yield a deterioration in the work environment rather than an improvement. (Dean, Susman and Porter, 1986).

## Social Limits to Growth

The title of this section is the title of a 1976 book by the late Fred Hirsch. The author's comments in this section are in parentheses, in order to separate them from the paraphrase of Hirsch's analysis. Hirsh points out that all goods and services that enter computations of economic growth are scarce, but growth can increase consumption of ordinary goods and services for all, given effort and resources. However there is a second category of scarce goods and services that by their very nature are not expandable or potentially obtainable by all. Some of these are physically scarce, so that their possession and use will tend to be concentrated among the very rich, or be regulated by nonmarket procedures. Examples include a painting by Rembrandt, which could be hung in a public museum or on a private collector's wall.

More important, Hirsch's insights extend to what he calls "social scarcity." Direct social scarcity attaches to items that derive their value from fashion or changing preferences. (In Washington D.C. fifty years ago, for instance, Georgetown was not a prestigious area, and few had heard of Perrier.) The more numerous and important cases of indirect social scarcity are incidental to the direct consumption of the good or service.

Economists use the term "externalities" to describe how consumption or production of a particular item affects others than the immediate consumer.

Cigarette smoke and other kinds of air pollution are obvious examples of negative externalities. Positive externalities are harder to find, one often-cited example is the pollination performed by the honeybee, but the most pervasive one is the rationale for free public education as the basis for an enlightened citizenry.

Congestion is a type of externality related to social scarcity, in that there is no specific subset of consumers to blame; but that everyone imposes and experiences costs of delay and frustration. (One effect of economic growth and higher incomes is that people spend their time waiting in more and more expensive places. Chinese traffic jams may involve bicycles, ordinary American commuters wait in their cars, while the Washington-New York shuttle can resemble rugby played with attache cases.)

In addition to physical congestion there is "social congestion." This refers to scarcities that are positional, and by their nature available only to a few. Even in banks, there are fewer vice-presidents than people below that rank. To say that "any boy can become President" is manifestly true, and may be someday true for girls as well, but one can't say "every boy or girl can become President. The congestion occurs not in the office of the President, but in the ante-rooms.

There are more candidates for top jobs, and for jobs on the way to the top, than there are entry ports to the process of selection. One of the results of this congestion is that candidates attempt to secure positional advantages by acquiring credentials or attributes that make them seem better qualified than their competitors. Education is one such attribute that has been regarded as having a signaling function. Deliberate use of education and training as screening devices is one way to reduce crowding. (Another way is to set an organizational and financial obstacle course that some may not have the stomach for and others may not survive-- e.g., thus has evolved the U.S. Presidential "selection process.") To the extent that those with more years of schooling have acquired additional human capital that makes them more productive, the use of education as a hiring criterion makes the labor market work more efficiently.

Prestigious jobs also tend to be well-remunerated ones; they tend to have a queue of applicants attracted by high relative earnings. A market-oriented way of reducing congestion at the ports of entry to such jobs, or lessening the competition on the early rungs of the career ladder, is to reduce the differentials in salaries and perquisites associated with such jobs. This would tend to deter entry of those mainly "in it for the money," as opposed to those mainly attracted by the intrinsic attributes of the job itself.

Top jobs are a subset of positional goods and services. The allocation of time and resources is affected by competition for ways to earn income as well as to spend it. People in effect invest in themselves, primarily through formal education, to become eligible for particular ways to earn income. The major way in which income earning and income spending interact is in the choice of how and where to live.

Social Scarcity Housing and Education

It has been well-remarked that house purchase is more difficult now for

first-time buyers than it was for similarly-situated families 15 to 20 years ago. One essential attribute of residential property is its positional nature. While the supply of houses can increase, the supply of houses within a 20 or 30 minute commute of downtown may not be able to be significantly increased. Those who bought earlier get the capital gains associated with that scarcity value, making them more able to outbid first-time buyers for new houses. The rising relative price of housing of a fixed location means that a rising proportion of income must be spent on it, leaving a lower percentage, and perhaps a lower absolute dollar amount, to be spent on other things.

In addition to a house and a location, homebuyers are buying an environment. Suburbs grew because people wanted to be close to the city, but outside it. As more people leave the city, its economic base and capacity to provide basic urban services (police, traffic, infrastructure, culture and entertainment) declines, while demands for similar services multiply in the new jurisdictions. Some areas deal with this by zoning restrictions, such as large minimum lot sizes, that in effect limit residents to those with sizeable incomes. Other areas become more urban and congested as they develop, so that a metropolitan area can be typified as a central city with few middle income families (although perhaps with increasing numbers of middle income couples), surrounded by nodules of older suburbs, surrounded in turn by newer suburbs, connected by increasingly congested roads. The spatial distribution of jobs is outside the scope of this paper, but there is evidence that private sector employment is increasingly concentrated in the outer ring, and that, in particular, jobs in professional services and high-tech manufacturing are growing there especially rapidly. (Stevens, 1987).

Social vs. Private Returns to Education

In an economy in which employers use educational attainment as a screen for hiring into many of the best jobs, going to school takes on an increasingly defensive character, and to the extent that the particular credential is held by an increased share of the work force, its information content or usefulness as a screen is diminished. To be a high school dropout today says something much more derogatory about a person's employability than was the case even a decade ago. To be a high school, or even college, graduate today says something much less emphatic about the graduate's employability than was the case a decade ago. (However, the unemployment rate disadvantage of less educated workers has worsened over 1977-1987. The unemployment rate for labor force members 25 to 64 years in March of both 1977 and 1987 was the same, 5.7 percent. Unemployment rates for persons with different amounts of schooling for 1977 vs. 1987 were: Less than 4 years of high school— 8.9/11.1 percent; Four years of high school— 5.5/6.3 percent; One to three years of college— 4.9/4.5 percent; Four years of college or more— 2.7/2.3 percent. Source: Bureau of Labor Statistics News Release, USDL 87-415, September 28, 1987.) Employers may use additional information as a finer mesh to the screen. The identity of the school attended, and class standing, can be used as further ways of ordering the queue.

What this means is that the private returns to spending on education to the individual depend to a large extent on how well he or she ranks compared to others at the same educational level. In that sense the competition is like a fair lottery, a zero-sum game. If the real resources used in this

competition don't result in increased output, the game is a negative sum one for society, but played under new rules. For education and training to be worth their cost to society, those educated and trained must have their productivity actually raised in either their old jobs or in the new jobs created through technological change and market shifts. This condition is a separate issue from the case in which training some workers in an occupation for which supply already exceeds demand merely displaces other workers who would have been hired instead. That rearrangement of the hiring queue transfers private benefits regardless of whether the training is used as a signal/screen or actually does enhance productivity. The social cost vs. social return argument provides another reason to go warily in thinking of education as a panacea for structural unemployment or insufficient rates of productivity growth.

## ECONOMIC GROWTH, PRODUCTIVITY GROWTH AND LABOR FORCE GROWTH

The view that economic growth is a means, rather than an end in itself, is well expressed in the following quotation from four eminent labor economists.

> "The desirable advanced industrial society of the future is not necessarily the one with the highest consumption per capita or the highest GNP per capita, or the highest rate of growth, but particularly the one which offers its people as individuals a wide range of options from which each can choose freely. An economically poor or less developed society usually lacks the capacity to provide a wide range of options for all of its people. Thus, a high level of material welfare is normally one condition, but not the only condition, of the "good industrial society." " (Dunlop, Harbison, Kerr and Myers, 1975)

This section will first trace the growth of the U.S. economy over time, and then discuss growth-related issues in the modern U.S. economy.

### Stages in U.S. Economic Growth

During the three hundred years between the Pilgrims landing at Plymouth Rock and the American Army landing in France in World War I, the United States was a "debtor nation." Foreign sources of investment funds were important in the economic development of the country, and a surplus of exports over imports was required to pay interest on this aggregate debt. As a young, primarily agricultural, nation, the United States' imports exceeded its exports, with the trade deficit financed by European investment and a labor supply repeatedly augmented by immigration. In the period from the end of the Civil War to World War I, the United States was industrializing, with approximate balance between imports and exports and immigration an important source of labor for the growing cities as well as for development of the West. From the 1920s to the oil crises of the 1970s, the United States was a net lender to the rest of the world, with a corresponding excess of exports over imports. These surpluses were particularly large in the postwar years when U.S. loans helped other nations rebuild their economies. (U.S.

International Trade Commission, U.S. Trade Related Employment: 1978-84, p.9)

For the United States to be a net lender to the rest of the world meant that the sum of private saving and tax revenues exceeded the sum of private domestic investment and government spending. In the early 1980s, however, U.S. economic policy was set on an expansionary course, with private investment and government spending rising faster than did domestic saving and taxes. To control inflation, monetary growth was restrained, leading to higher real interest rates compared to other countries, and appreciation of the dollar versus most major currencies. This combination induced net inflows of capital to the United States in amounts necessary to finance the growing trade deficit (excess of imports over exports). The U.S. expansion, fueled by large and growing Federal budget deficits, contrasted with the negligble recovery experienced by European nations and with political as well as economic problems encountered by many developing countries in servicing their debts. The result of these interacting developments was that the U.S. was able to consume more than it produced, financed by borrowing from the rest of the world. (United States Trade: Performance in 1985 and Outlook, pp. 58-59)

Economic expansion over the past decade enabled the United States to absorb the growth in our labor force, but without any improvement in average levels of real earnings. Real compensation per hour in manufacturing in 1987 is about at its 1977 level, while output per hour of all persons, the basic measure of manufacturing labor productivity has increased by about one-fourth. The median income of male, year-round, full time workers, in constant (1985) dollars, peaked in 1973 at $27,761, declined to $24,134 in 1982 and recovered to $24,999 for 1985. Poverty rates for all families bottomed out in 1973-74 at 8.8 percent, rose to 12.3 percent by 1983, and fell to 11.4 percent by 1985. That is, the recovery from the 1981-82 recession has been only a partial recovery in terms of incomes, and, moreover, that recession was only the latter part of a decade of net negative real growth in earnings. (Economic Report of the President, January 1987, Table B-29.)

Living standards under such conditions seem to have risen by less than did earnings up to 1973, and fallen by less than measures of real earnings have fallen since then. If we look at the percentage of disposable personal income spent on personal consumption, we find that it was 92.1 percent in 1960, fell to 88.2 percent in 1973, and rose to 92.9 percent in 1986. The difference between consumption spending and disposable income has two main components: personal savings; and interest payments by households to firms. During the 13 years 1960 to 1973, the share of "nonconsumption" going to personal savings rose from 75 percent to 79 percent (i.e. from about 6 percentage points of disposable income in 1960 to over 9 percentage points in 1973.) With percapita consumption in constant dollars rising in all but four years of the last forty, Americans were simultaneously enjoying rising consumption levels and rising savings levels out of their rising real incomes. (The four years were 1958, 1959, 1974 and 1980.) Since 1973, not only have Americans consumed a higher percentage of their disposable incomes, but the share of "nonconsumption" going to personal savings has dropped sharply, to 55 percent (i.e., down to under 4 percentage points of disposable income). Interest payments from households to financial institutions and other extenders of loanable funds are an increasing part of the national

budget—we are living on credit more than we used to do. (Economic Report of the President, January 1987, Tables B-25 and B-26.)

Some of this change may reflect increased home purchase costs, due in part to higher nominal interest rates (these averaged close to zero in real terms during the 1970s, but were quite high in real terms in the 1980s, over 4 percent). In any event, the change in savings behavior is just one of several adjustment mechanisms used by people faced with a slower growth rate of real earnings than had been experienced in the 1950s and 1960s.

Private budget strategies of increased debt in response to slower growth in productivity and real earnings have been the choice of some persons and families wanting to maintain consumption levels. Federal budgets featuring continued large deficits have meant a de facto choice of living beyond our means as a society. Postponing hard choices about whose living standards to cut by how much (via increased taxes, reduced spending or both) has made productivity growth harder to improve by making the ultimate price higher and higher, and thus more politically difficult to pay. This is evidenced by the difficulty experienced in obtaining agreement on the "deficit reduction package" offered in place of mandated Gramm-Rudman-Hollings cuts.

Okun's Law

Assume an economy with a constant labor force and a rate of labor productivity growth of 2 percent per year. This means that the current level of national product could be produced next year by 98 percent of this year's labor input. To keep employment (and unemployment) at their current levels requires demand and thus national product to grow by 2 percent to balance the reduced labor requirements due to productivity growth at an unchanged level of national product.

The late Arthur Okun noted a pattern in U.S. unemployment and product data that others dubbed Okun's Law: In order to reduce the unemployment rate by 1 percentage point, national product must rise by about 3 percentage points. The difference between a 1 percentage point fall in the rate of unemployment, say from 7 to 6 percent of the labor force, and the 3 percentage point rise in final demand, is the 2 percentage points of the labor force displaced by productivity growth that year. If final demand, and hence the level of output, did not rise by 2 percentage points at least, total employment could fall.

Productivity growth is the key to economic growth as well as affecting employment growth. Economic growth is usually taken to mean increases in real per capita income. That definition has to be modified and expanded, because some of the ways real per capita income can vary are not necessarily related to desirable policy objectives. For instance, the birth of a child lowers a family's real per capita income, but it is clear that neither productivity nor well-being are lowered with it.

The most appropriate measures of productivity use "value-added" as the numerator. A measure of output valued at market prices would rise if increased raw materials cost was passed on to consumers. One would not want to say that service station productivity was higher after the OPEC-engineered oil price hikes of the 1970s than before them, so a value-added measure is

needed.

Older industries with relatively "low tech" production processes, such as apparel or shoes, have below-average capital/labor ratios and below average wage rates. They tend to employ workers with limited skills. Some parts of nominally "high tech" industries also employ workers with limited skills at below-average wages to assemble items in large quantities, e.g. microprocessors. The reason is that such workers add little value to the product in terms of sales revenue. Some firms and workers in both low tech and high tech industries provide specialized products requiring more skilled and creative inputs: both designer jeans and designer genes have high value-added.

Capital and skilled, high-wage labor tend to be complementary in production, that is, high-wage workers have a higher capital per worker ratio than do low wage workers. Conversely, capital tends to substitute for less-skilled or entry-level workers. An increase in capital per worker may increase the skill demands on the people who work with the new equipment, but reward them more highly. The U.S. economy absorbed the baby boom bulge of new labor force entrants during the 1960s and 1970s in part because the jobs that were created, predominately in service-producing industries, used lower amounts of capital per worker than would likely have been used if the inflow of new workers had been smaller.

A facile response to this point would be, why not just provide more capital per worker? The answer is that making even a modest increment in the capital available to employers requires a substantial and sustained increase in the annual rate of investment (the formation of new capital). To increase the economy-wide capital/ labor ratio by 10 percent for a constant labor force, for instance, implies the need to increase the capital stock by about 10 percent, and the needed investment is larger the faster growing is the labor force. As an earlier NCEP staff analysis noted, capital stock increases of this magnitude would take a number of years to be achieved:

> "For example, under the implausibly optimistic assumption that the economy and investment will grow at a 5 percent annual rate and that tax policies would increase investment by 20 percent over what it would otherwise have been, the capital stock would be only 3 percent larger after 1 year and 10 percent larger after 5 years. A more plausible but still somewhat optimistic assumption would be that the growth rate of the economy is 2 percent and investment can be increased by 10 percent. In this case, after 1 year, the capital stock is only 1 percent larger; after 5 years, it is only 4.5 percent larger." (Daniel H. Saks and Steven H. Sandell, 1980, p.45).

The process of providing more capital per worker is continuing, and, in fact, has been one of the stronger elements of recent productivity growth. (Gullickson and Harper, 1987). These considerations lead to the conclusion that increased productivity growth and economic growth are not likely to be very responsive to policies targeted on stimulating investment in physical capital. Policies targeted on increasing human capital are likely to be more effective, but they, and the resultant economic growth, have costs that many

consider excessive.

A Critique of Economic Growth

A number of writers have questioned the priority given economic growth in national policy formulation. These writers argue that the costs of growth need to be examined as well as the benefits. Such costs are largely outside the traditional areas of concern of economics, but some economists have dealt with them, as in this quote from Walter Weiskopf.

> "Economic growth with its gale of destruction has contributed to the alienation, insecurity and rootlessness of Western man. If he has found roots in a stable environment, economic change may uproot him again. The general feeling of insecurity and lack of community that pervades our society may stem from continuous change and its threat to physical and mental stability. The modern economy forces man into a pattern of extreme flexibility and detachment. He has to be continuously on the alert and adjust himself to the changing frontiers of production, jobs and consumption. This has made him into a lonely member of a crowd. Economic change may sever the ties of habitat and neighborhood; it may cut apart the bonds of friendship and human relations. The great attention paid to human relations in industry is a consequence of the lack of attachment and involvement that continuous change requires. Definitely there can be too much change and too fast a rate of change. Human beings require an equilibrium between change and stability, a need which is not met by the modern economy." (Walter A. Weiskopf, Alienation and Economics, 1971, pp. 169-70).

The holistic approach taken by Weiskopf contrasts sharply with the market orientation of most economists and economic policy makers, as represented by Dunlop et al.. Human well-being, in Weiskopf's view, cannot be understood, much less advanced, if stated in solely market-oriented terms. (see other quote below) This point has come to be somewhat better appreciated in the 15 years since he wrote. Some corporations, notably IBM, have "no-layoff" policies and other programs that create a corporate culture more attuned to the costs of change, in part because of being in one of the most rapidly-changing industries.

One dimension of the costs of economic growth that has received research attention is the linkage between work, unemployment and health. Work and health have both positive and negative relations. Purposeful activity (paid or not) tends to be associated with better physical and mental health, while unemployment and inactivity is related to poorer health, and increased rates of morbidity and mortality for a given population. Of course, work in a hazardous occupation, or in a workplace with environmental hazards increases morbidity and mortality as well, while work-related stress is a recognized medical condition. In addition to the relation between illness and being unemployed, the manner in which unemployment comes about also affects physical and mental health. Displaced workers, those laid off through no fault of their own due to a plant closing or large-scale reduction in force,

are more likely to report lowered self-esteem and to have more difficulty finding jobs than are individuals who quit on their own. The way in which a displacement event is handled by the employer affects how well the transition is managed by those workers let go.

Another dimension of the costs of growth is the complex of issues under the heading "work and family." Work/family tensions are based on the dual role of adults as workers and parents (and, increasingly, as children of elderly parents). It is a "women's issue" in the eyes of many because of the social and legal framework in which care of dependents is embedded. There really should be no automatic assignment of men to paid jobs only and women to homemaking (in addition to any paid work). In practice, there is a strong element of role-expectations and sex stereotyping underlying many work/family conflicts. Power relationships tend to favor men, such that women who are regarded as "successful" tend to be those who emulate male behaviors, e.g., working long hours.

The changes that are occuring within the family cannot be viewed as womens' issues any longer, as evidenced by Congressional consideration of "parental leave" legislation. Men are no longer the only income earners in most families, and one implication is that they have a vital economic interest in how well women do in the labor market. Families in which husband and wife both work for pay have concerns about child care and other nonmarket activities that spill over into their performance at work and the pattern of consumption at home.

To conclude this section, and anticipate some of the discussion in the next, consider a second quotation from Walter Weiskopf:

> "These noneconomic needs which cannot be satisfied by more production for the market are the <u>real costs of economic growth</u> and of the striving for more and more goods and services. A society which allocates most of the activity of its members to the production of goods will prevent the fulfillment of other needs and aspirations. The members of such a society will consider nonmarket activities as inferior, less important aspects of life. Parents, peer groups, authorities and educational media instill the idea that whatever has no market value has hardly any value at all. The meaning of life in our society depends on the experience of participating in production for the market." (W.A. Weiskopf, 1971, p. 188 (emphasis in original)).

The importance of market work in the lives of women has been increasing in recent years, which has been a factor in raising the level of attention given to market-nonmarket conflicts and complementarities. As a society, we may be becoming more aware of the costs of economic growth at the same time we are becoming more committed to market approaches to how we live.

BEST COPY AVAILABLE

WHAT VALUE(S) CAN BE ADDED BY WORK IMPROVEMENTS?

Most of this paper so far has focused on various aspects of economic growth, and little has been said about work improvements. The Commission's mandate mentions, but does not restrict the list to, " conditions of employment, organizational effectiveness and efficiency, alternative working arrangements, and technological changes." Work can be improved in a variety of ways: increased compensation, healthier surroundings, higher productivity, scheduling that is more responsive to family obligations, and job content or duties that are more interesting or satisfying to the worker are among the first that come to mind. The major policy point that this list leads to is to what extent will such improvements affect growth and so what?

While Okun's Law tells us that a certain rate of economic growth is needed to maintain given levels of employment, based on the rate of productivity increase and the rate of labor force growth, attempts to accelerate economic growth should not necessarily be very high policy priorities for the Federal government. As former Council of Economic Advisors Chairman Herbert Stein recently put it, "I cannot look at the United States or at the world today and say that one of our major problems is that U.S. output is too low or grows too slowly." (Stein 1986) Stein puts higher priority on other goals, realizing that both policy attention and resources are limited. Among the goals also deserving attention and resources, he lists aiding underdeveloped countries, strengthening national security, and setting a floor of economic security.

Stein makes a point similar to that made by Saks and Sandell as quoted earlier: the main way government fiscal policy can affect growth is by reducing the budget deficit to make more savings available for private investment, but a large percentage reduction in government spending would be required to make a relatively minor difference in private investment and capital formation. Affected programs have their own goals and constituencies, and the resources that would be released would not necessarily be easily transferrable to investment-increasing activities. The other side of the coin, of course, is that a number of other policy choices have implications for economic growth, and the effects on growth should be considered in deciding which options to adopt.

Is Work a Four-Letter Word?

Weiskopf's charge, quoted at the end of the last section, can be interpreted as a call for changing the emphasis put on market work vs. other human and social goals. Hirsch's analysis of social scarcity concludes that pursuit of some work goals, and consumption goals too, converts what could be positive sum situations into zero or negative sum ones. Work improvements could receive more emphasis than economic growth on the policy agenda, which would alter the relative weight that might be given to particular factors in the growth process. The role of technological change, for instance, is not just to let the robots and computers do all the work, but to use such aids to productivity to both alter and expand how people spend their time in meaningful ways. (see National Academy of Sciences, 1987, and National Commission for Employment Policy, 1986.)

I wrote this paper on a word processor, and printed successive drafts on an automatic printer. Doing it myself, work that might have been done by a secretary has been incorporated into the process of authorship. This is akin to the searching and fetching done by customers in self-service stores, versus relying on clerks putting together an order. My work may have been improved, to the extent that I found the process congenial, but has "work" been improved or just changed?

What about workers required to sit for eight hours before a Video Display Terminal, except for short scheduled breaks? Required to ask permission before going to the bathroom? Have their telephone conversations with customers monitored? Be subject to warnings or dismissal if they average more than some fixed time per conversation? That is how some people's work has been changed — because of the way new technology has been implemented not because of the technology itself. (Howard, 1986)

Implementation decisions also affect who does the work. When work is altered by technological change, it is not necessarily done by the same workers who did it before. A review of empirical studies of workforce adjustment related to technological change indicated that where a job had been performed by men, they tended to be retrained for upgraded skills, while in jobs performed by women, upgrades tended to go to men and downgrades in skill were more likely to stay predominately female jobs. (Flynn, 1988). This finding, and the practices discussed in the previous paragraph do not mean that technology is the cause of the discrimination, harsh supervision or job stress, any more than it can be hailed as the cure. Similarly, technology is neither cause nor complete cure for employee theft, lack of effort or inappropriate behavior, problems that many managers face every day.

Technology is not deterministic. Its implementation involves human choices, and those choices can reflect management and worker preferences, past and present labor relations climate, and policies set at higher levels of the corporation. The same factors apply to how jobs are defined in the absence of technological change: the organization of work is a question of authority relationships, as well as interpersonal relationships. Two different supervisors, with different personalities and management styles, can use the same authority in different ways and with different levels of effectiveness.

A recent study by a committee of the National Academy of Sciences, sponsored by NCEP, concluded that the most effective implementation of advanced technology in manufacturing required changes that were not necessarily comfortable for everyone in the firm. In particular, changes in what the committee termed "plant culture" were complementary to changes in organization and job design.

Traditional plant culture is characterized as authoritarian, with communication from the top down, limited worker discretion and knowledge of plant operations, and close supervision. Practices more compatible with maximizing returns from advanced manufacturing technology include:

- devolving more decision-making to the plant floor,
- providing such workers with more information on how their jobs fit

into the entire process,

- o rewarding collaboration and information sharing.

Some employees have found such changes stressful, and selection processes for supervisors of or workers in new or reconfigured jobs have had to take account of such individual differences. (National Academy of Sciences, 1986)

What this finding supports is a conclusion that even if organizational effectiveness and efficiency are improved, the changes that make that possible are not going to lead to "improvements" in the work situation of every employee (including managers in the employee group). The situation is somewhat akin to medicine. A doctor may prescribe a particular therapy which is known to be effective for most cases of a particular symptom. Specific individuals, however, can have adverse reactions, e.g. allergy to penicillin, or suffer from side effects. For some, the cure can be worse than the disease. Yet another reason to go warily.

Alternative Working Arrangements

The arrangements to be discussed are alternatives to the "standard" full time Monday to Friday schedule. While about 20 percent of the workforce are on part-time or part-week schedules, and another 20 percent work 41 or more hours per week, the average work week has remained close to 40 hours for the last 40 years. Long work weeks are particularly common among self-employed persons in all occupations and among professionals and managers, most of whom are men, while part-time jobs are disproportionately held by teenagers, older people, and women with children, and are concentrated in service, sales and clerical occupations.

A major part of the response of families to erosion in living standards has been to supply additional labor to the market, most particularly the labor of the wife in two-parent families. The labor force participation rates of women have risen particularly sharply for women with young children. This has in turn increased demand for child care facilities and demand for policies that deal with child care issues.

A related issue is "community work", volunteer activities with the schools, with churches and social service agencies, that have been typically performed by wives working without pay. Such activities have been faced with a decreasing supply of volunteer workers. The increasing numbers of older, retired workers have not offset the decline in the numbers of former full-time housewives as a source of volunteers. (Carol Jusenius Romero, 1987)

While a major theme of this paper is that economic growth is not a panacea for economic or social problems the lack of real income growth, related to low productivity growth, has induced certain labor force responses with implications for social and educational policy as well as labor market policy. In effect, families have had to depend more on their own resources and on transactions in the marketplace, and less on "the kindness of strangers." The ability and willingness of strangers to be kind may have been adversely affected by social and economic trends of the 1970s and 1980s that have resulted in fewer or less satisfactory options.

To paraphrase the quotation from Dunlop, Harbison, Kerr and Meyers, the good industrial society is one whose high level of income allows its citizens considerable freedom of choice in how and where they live and work. Such a society has several characteristics: political democracy and economic freedom, so that people can make choices with respect to public as well as private goods and services; efficiency, which includes an efficient labor market to allocate workers where they can do best; and a considerable degree of income equality, so that all citizens get a chance to make their own choices. (Income equality is defined after taxes, transfers and receipt of income in kind.)

These characteristics can be viewed as "public goods" in their own right. That is, just like national defense, effectively functioning markets for workers, goods, services and ideas confer indivisible benefits on all those living in the United States. The rising living standards (the manifestation of economic growth) that both result from and make possible the maintenance of the good industrial society cannot be viewed as everyone getting more of the same. This is clear in the very long run, as new products and consumption patterns emerge. It is less clear in the short run because change occurs slowly, and because individuals can achieve relative improvement, gains related to personal career advancement, which may be confused with general gains.

The "trickle down" view of economic growth, that improvement in living standards comes through more of society getting much the same package of the good things in life, is not totally accurate, because an important share of both consumption and job competition is what Fred Hirsch termed "positional." Good things such as college education or an oceanside cottage, that those at the upper end of the income distribution are enjoying now, are subject to social scarcity. The implication from Hirsh's analysis is that the college degree or the house at the seashore have a smaller effect on living standards of their possessors when they are common than when they are rare. This should not be interpreted as a defense of established privilege against new claimants for status --the western saying that "an environmentalist is someone who got a mountain cabin last year" conveys the attitude to be avoided. The point is that as economies evolve, so does the set of choices facing participants in them.

## Adding Value to Jobs to Get Added Value from Jobs

If rising living standards (as the manifestation of economic growth) can not be viewed as more of the same all round, what view can be taken? One possible view, consistent with the idea of the good industrial society as augmenting choice, is that each person can get more of what he or she values most, and that there can be ways for society to obtain more of the kinds of activities that increase community welfare. Part of these increases can come from enhanced status being accorded to volunteering. Another part of those increases in living standards can take place on the job, since that is where we do much of our living, and since the potential for work improvements is quite varied because of the heterogeneity of workplaces. In particular, self-development as well as leisure can be augmented both on and off the job, and other kinds of useful activity can be incorporated into the employment relationship. Standard economic analysis views the employment relationship as an exchange of work effort for purchasing power. An expanded view

realizes that a job bundles together consumption possibilities with production possibilities.

One obvious change to the structure of the employment relationship would be increased relaxation of the rigidity of the 5 day, 40 hour work week for increased numbers of workers. Flexitime and other modifications have been introduced successfully in a minority of workplaces, but tend to require a fixed total number of hours over a given period for all workers in the plan. It would be an interesting experiment to regard the total hours in a work group, establishment or plant as fixed, but allow individuals to set their workweek (for prorated pay) at anywhere between 35 and 45 hours. Persons with greater demands for money would work longer schedules than those who had child-care, volunteer or other time-intensive commitments.

Another possibility would be more extensive use of loaning workers or paying for sabbaticals to work on socially-beneficial projects. Many firms already assign personnel to staff United Fund campaigns, for instance, while fewer provide paid leave to workers engaging in longer-term projects. An insurance company might, for instance, allow a statistician time to teach a math class at an inner-city high school, while another firm could let an amateur astronomer have time off to coordinate the planetarium at her child's elementary school.

A particularly important source of both work improvement and productivity enhancement is on-the-job training (OJT). If the half-life of occupational knowledge is decreasing, as seems to be the case, retraining will become even more important for an increasing segment of the workforce. Financing such retraining for still-employed workers has been viewed as an employer responsibility. Federal aid has been focused, through the Job Training Partnership Act and its predecessors, on the disadvantaged and the displaced. There has been increased interest on the part of States to aid firms, especially smaller firms, in becoming more competitive (Menzi, 1987, and Sheets, 1986). Part of any Federal interest has to do with the need for equitable access to training and retraining opportunities on the part of women and older workers, who have tended to benefit less from upgrading and OJT generally (Flynn, 1988).

The gist of what I have been saying is that work improvements can improve both productivity on the job and satisfaction from the job. Consideration of values other than strictly marketable ones does not necessarily mean that value cannot be added on the job. Such changes would not be substitutes for increased real incomes, but complementary to, and indeed part of, improved productivity for the enterprise as a whole. This is a national policy issue in part due to the increasing importance of positional elements for both jobs and consumption. An individual, firm or even a State can capture individual advantages that do not advance national output or welfare. Some of the motivations or incentives for such behavior can be reduced by Federal policy action, while other aspects of adding value to jobs to get added value from jobs can be demonstrated by the Federal government in its capacity as employer.

The Federal government's central economic role is the conduct of monetary and fiscal policy. For work improvements to have the best chance of aiding productivity growth, macroeconomic policy should be targeted to achieve and

maintain full employment, defined for present purposes as somewhere around five percent unemployment. In the last several years the economy has moved closer to full employment, but responsible reduction in the budget deficit is key to consolidating that progress. Inability to reduce the federal deficit has had adverse effects on consumer and investor confidence, both domestically and abroad. In a recession-prone economy, or one that is operated well below capacity, defensive expenditures on credentials acquire increased importance, resistance to mobility is increased, and innovative products and processes have a harder time coming to market.

Even in a dynamic, fully-employed economy, displacement due to market shifts and technological change means a continuing need for retraining and upgrading of workers. There is both an equity and an efficiency basis for governmental support of such programs, even though most of these activities must of necessity take place within firms. In many cases, the gains from trade and new technology are broadly diffused to consumers in the form of new products and lower prices. The costs of such gains tend to be concentrated on displaced workers and the communities in which they live. Aiding those people and places transfers some of the burden to the general population benefitting from the market shifts. National efforts to reduce illiteracy, aid displaced homemakers and deal with inflows of workers from abroad are also needed for similar equity and efficiency reasons. Government also has a role to play in maintaining and enforcing anti-discrimination provisions, and more positively, aiding in the realization of everyone's potential and thus expanding their ability to choose.

## CONCLUSION

This paper began with a discussion of the American dream, and whether it was becoming more difficult to achieve. Increased competition from abroad, the effects of technological change, and shifts in attitudes and expectations of and about women and minorities have made the labor market a more complicated place in which to succeed. Housing, education and retirement goals have been particularly affected by the positional nature of much of the rewards and satisfactions derived from them. Recognition of the elements of social scarcity should help in lowering expectations that cannot be fully realized by everyone. Economic growth and work improvements can be realized in other ways, however, that can conceivably become desirable dimensions of the American dream.

In order to add value that can justify rising living standards, the quality of our inputs must be raised, primarily our labor inputs via better education. This does not necessarily mean just education in terms of more years in school or degrees received. Just as we cannot maintain lifelong health by eating properly up to age 21 and eating junk food thereafter, we cannot maintain economic or intellectual health by stopping learning on leaving school. While OJT may be appropriate for many occupations, recurrent learning through formal coursework or sabbatical releases may be needed for the most dynamic and technical occupations. The educational dimension of a job, the fact that it does <u>not</u> remain the same year after year, should be stressed as a positive, rather than a negative, attribute of employment. It is in fact a misnomer to speak of "job security". One's "employment security" will increasingly be based on the ability to master changing work requirements.

At the same time, the negative aspects of change mentioned by Weiskopf and others cannot be ignored, and postive actions should attempt to neutralize them. The need for mobility within and across organizations must be tempered by policies and programs that enhance personal and family stability. While some workers may find stability through identification with their employer, others may feel that a firm-centered private life has its own costs and tensions. The ability to become involved with the larger community may be essential to work satisfaction as well as personal satisfaction for some individuals, while for others the ability to modify work commitments in response to family commitments may be particularly highly valued.

One of the touted advantages of flexible manufacturing systems is that mass production of a limited number of styles can be replaced by production for market niches of a wider variety in smaller quantities. Even in service-producing organizations, it may be possible to use smaller, less bureaucratic units to deliver more individualized services. If outputs can be differentiated in this way, why can't inputs be similarly individualized? Obviously it can't be done in every job, but there is enough diversity in peoples' needs and preferences that an efficient labor market should be able to better match <u>how</u> people want to work with specific job arrangements, as well as matching skills with <u>what</u> they do on the job.

The attainment of a more efficiently operating labor market is facilitated by publicly financed production and distribution of labor market information. To take an example from another part of the public sector, the National Weather Service supplies basic information that is transmitted freely by broadcast media, over the telephone and in newspapers. Such information aids decisionmaking in both minor and major ways—not taking an umbrella may get you wet, but not knowing of an impending hurricane can be life-threatening. Labor market information on current job openings and longer term trends can serve similar functions in better matching skills and preferences of individuals with jobs that they are glad to do well. The Employment Service, the National/State Occupational Information Coordinating Committees, and programs funded under the Job Training Partnership Act are all parts of this labor market infrastructure.

This paper has gone warily through some of the dimensions of economic growth and work improvements. One conclusion is that a modification of concepts and expectations about work and its rewards is needed in order to reduce conflict between what people want and what they can get. This modification has to operate in both dimensions: the wants have to be more consistent with changed economic realities, and ability to get the modified wants can be increased by both individual effort and governmental enterprise. Political and social goals, just like seashore cottages and college degrees, are items of "social scarcity." Tradeoffs and compromises are part of the policy process. A second conclusion is that expanding the dimensions of what is meant by the "good industrial society" and thus allowing more choice in theory is a necessary, but not sufficient strategy. It must be coupled with an overall economic strategy, stressing full employment, in which choices can be realized. A third conclusion is that moving toward a higher value-added economy will both generate and need economic growth and work improvements. That economy will be based on a labor market in which workers can expect change, but need not fear it.

## REFERENCES


James W. Dean, Jr., Gerald I. Susman and Pamela S. Porter, "Technical, Economic and Political Factors in Advanced Technology Implementation," The Pennsylvania State University, Center for the Management of Technological and Organizational Change, Paper 86-8, May 1986.

Edward Denison, Why Growth Rates Differ, The Brookings Institution, 1967.

John Dunlop, Frederick Harbison, Clark Kerr and Charles Myers, Industrialism and Industrial Man Reconsidered, Final Report of the Inter-University Study of Human Resources in National Development. 1975.

Patricia Flynn, Facilitating Technological Change: The Human Resource Challenge, Ballinger Publishing Co., 1988.

William Gullickson and Michael J. Harper, "Multifactor productivity in U.S. manufacturing, 1949-83," Monthly Labor Review, October 1987.

Bennett Harrison and Barry Bluestone, The Great American Job Machine: The Proliferation of Low Wage Employment in the U. S. Economy, a study prepared for the Joint Economic Committee, December 1986.

Fred Hirsch, Social Limits to Growth, A Twentieth Century Fund Study, 1976.

Robert Howard, Brave New Workplace, Penguin Books, 1986.

Marvin Kosters and Murray Ross, "The Distribution of Earnings and Employment Opportunities: A Re-Examination of the Evidence," American Enterprise Institute, Studies in Economic Policy, September 1987.

Frank S. Levy and Richard C. Michel, "An Economic Bust for the Baby Boom," Challenge, March/April 1986.

Donald Menzi, "Training for World-Class Competition," Regional Education Center for Economic Development, New York, March 1987.

National Academy of Sciences, Manufacturing Studies Board, Human Resource Practices for Implementing Advanced Manufacturing Technology, (study funded by NCEP), National Academy Press, 1986.

National Academy of Sciences, Panel on Technology and Employment, Technology and Employment: Innovation and Growth in the U.S. Economy, National Academy Press, 1987.

National Commission for Employment Policy, Computers in the Workplace: Selected Issues, Report No. 19, March 1986.

Carol Jusenius Romero, "Retirement and Older Americans' Participation in Volunteer Activities," in Steven H. Sandell, ed., The Problem Isn't Age: Work and Older Americans, Praeger, 1987.

Neal H. Rosenthal, "The Shrinking Middle Class: Myth or Reality?" Monthly Labor Review, March 1985.

Daniel H. Saks and Steven H. Sandell, "Employment Effects of Long-Term Structural Tax Policies," in National Commission for Employment Policy, Sixth Annual Report, Report No. 10, December 1980.

Robert G. Sheets, "Business and Worker Perspectives on a Privately Financed Job Search and Training System in Illinois," A Report to the Prairie State 2000 Authority, State of Illinois, January 1987 (draft).

William K. Stevens, "Beyond the Mall: Suburbs Evolving Into 'Outer Cities'," New York Times, Sunday, November 8, 1987.

Herbert Stein, "Should Growth be a Priority of National Policy?" Challenge, March/April 1986.

U.S. Bureau of Labor Statistics, "Labor Market Success Continues to be Linked to Education," USDL News Release 87-415, Sept. 28, 1987.

U.S. Council of Economic Advisers, Economic Report of the President, January 1987.

U.S. Department of Commerce, United States Trade: Performance in 1985 and Outlook, October 1986.

U.S. International Trade Commission, U.S. Trade Related Employment: 1978-84, USITC Publication 1855, May 1986.

Walter A. Weiskopf, Alienation and Economics, Dell Publishing Co., 1971.